

Remote Learning Packet

There is no need to submit this packet at the end of the week. Enjoy your summer break!

Week 9: May 25-29, 2020

Course: Algebra 1

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Monday, May 25

Happy Memorial Day! No School!

Tuesday, May 26 - Friday May 29

Complete the attached Review - Chapter 12. After completion, you may verify work/answers with the attached answer key. You will NOT need to scan, upload or submit this work.

Please use any extra time to ensure that you upload any missing packet materials from the first 8 weeks.

Thank you for all of your hard work during this challenging time, and have a relaxing summer. We are looking forward to seeing you all next fall!

Review Chapter 12

Solve the following. If necessary, please *leave answer in simplified radical form*. You may NOT use a calculator during the review.

1) Solve by taking the square root of each side.

$$x^2 = \frac{16}{25}$$

2) Solve by taking the square root of each side.

$$(x + 7)^2 - 81 = 0$$

3) Solve by taking the square root of each side.

$$(x - 4)^2 - 5 = 0$$

4) Solve by taking the square root of each side.

$$5(m - 8)^2 = 125$$

5) Find the value of c to make the expression a perfect square.

$$x^2 + 8x + c$$

6) Find the value of c to make the expression a perfect square.

$$x^2 - 3x + c$$

7) Solve by completing the square.

$$x^2 - 2x - 143 = 0$$

8) Solve by completing the square.

$$x^2 + 6x = 12$$

9) Solve by completing the square.

$$2x^2 + 8x = 24$$

10) Solve by using the quadratic formula.

$$x^2 - 8x + 4 = 0$$

11) Solve by using the quadratic formula.

$$x^2 - 2x = 9$$

12) Solve by using the quadratic formula.

$$3x^2 + 4x = 6$$

Review Chapter 12

Solve the following. If necessary, please *leave answer in simplified radical form*. You may NOT use a calculator during the review.

1) Solve by taking the square root of each side.

$$x^2 = \frac{16}{25}$$

$$\sqrt{x^2} = \sqrt{\frac{16}{25}}$$

$$x = \pm \frac{4}{5}$$

2) Solve by taking the square root of each side.

$$(x+7)^2 - 81 = 0$$

$$\sqrt{(x+7)^2} = \sqrt{81}$$

$$x+7 = \pm 9$$

$$x = -7 \pm 9$$

$$x = -16, 2$$

3) Solve by taking the square root of each side.

$$(x-4)^2 - 5 = 0$$

$$\sqrt{(x-4)^2} = \sqrt{5}$$

$$x-4 = \pm \sqrt{5}$$

$$x = 4 \pm \sqrt{5}$$

4) Solve by taking the square root of each side.

$$\frac{5(m-8)^2}{5} = \frac{125}{5}$$

$$\sqrt{(m-8)^2} = \sqrt{25}$$

$$m-8 = \pm 5$$

$$m = 8 \pm 5$$

$$m = 3, 13$$

5) Find the value of c to make the expression a perfect square.

$$x^2 + 8x + c$$

$$c = \left(\frac{8}{2}\right)^2 = 4^2 = 16$$

$$c = 16$$

6) Find the value of c to make the expression a perfect square.

$$x^2 - 3x + c$$

$$\left(\frac{-3}{2}\right)^2 = \frac{9}{4}$$

7) Solve by completing the square.

$$x^2 - 2x - 143 = 0$$

$$x^2 - 2x + 1 = 144 + 1$$

$$\sqrt{(x-1)^2} = \sqrt{145}$$

$$x-1 = \pm \sqrt{145}$$

$$x = 1 \pm \sqrt{145}$$

8) Solve by completing the square.

$$x^2 + 6x = 12$$

$$x^2 + 6x + 9 = 12 + 9$$

$$\sqrt{(x+3)^2} = \sqrt{21}$$

$$x+3 = \pm \sqrt{21}$$

$$x = -3 \pm \sqrt{21}$$

9) Solve by completing the square.

$$\frac{2x^2 + 8x}{2} = \frac{24}{2}$$

$$x^2 + 4x + 4 = 12 + 4$$

$$\sqrt{(x+2)^2} = \sqrt{16}$$

$$x+2 = \pm 4$$

$$x = -2 \pm 4$$

$$x = -6, 2$$

10) Solve by using the quadratic formula.

$$x^2 - 8x + 4 = 0$$

$$a = 1 \quad b = -8 \quad c = 4$$

$$x = \frac{8 \pm \sqrt{(-8)^2 - 4(1)(4)}}{2(1)}$$

$$= \frac{8 \pm \sqrt{64 - 16}}{2}$$

$$= \frac{8 \pm \sqrt{48}}{2}$$

$$= \frac{8 \pm \sqrt{16 \cdot 3}}{2}$$

$$= \frac{8 \pm 4\sqrt{3}}{2}$$

$$x = \boxed{4 \pm 2\sqrt{3}}$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

11) Solve by using the quadratic formula.

$$x^2 - 2x = 9$$

$$x^2 - 2x - 9 = 0$$

$$a = 1 \quad b = -2 \quad c = -9$$

$$x = \frac{2 \pm \sqrt{(-2)^2 - 4(1)(-9)}}{2(1)}$$

$$= \frac{2 \pm \sqrt{4 + 36}}{2}$$

$$= \frac{2 \pm \sqrt{40}}{2}$$

$$= \frac{2 \pm 2\sqrt{10}}{2}$$

$$x = \boxed{1 \pm \sqrt{10}}$$

12) Solve by using the quadratic formula.

$$3x^2 + 4x = 6$$

$$3x^2 + 4x - 6 = 0$$

$$a = 3 \quad b = 4 \quad c = -6$$

$$x = \frac{-4 \pm \sqrt{4^2 - 4(3)(-6)}}{2(3)}$$

$$= \frac{-4 \pm \sqrt{16 + 72}}{6}$$

$$= \frac{-4 \pm \sqrt{88}}{6}$$

$$= \frac{-4 \pm \sqrt{4 \cdot 22}}{6}$$

$$= \frac{-4 \pm 2\sqrt{22}}{6}$$

$$x = \boxed{\frac{-2 \pm \sqrt{22}}{3}}$$